CDR-4000S VHF/UHF Digital Receiver

CUBIC DEFENSE APPLICATIONS, INC.
A member of the Cubic Corporation family of companies

Date Revised: 25 NOV 03

VENDOR DESCRIPTION

The CDR-4000S is a high-performance dual-channel, rack-mounted receiver that has a 20-3000 MHz frequency range, multi-mode and DSP based demodulation. Each of the receiver channels is independently tunable and taskable. Each receiver provides an audio output and a digitized I&Q filtered IF output. This is a message-based device and it functions as a servant to another device that acts as its controller.

By proper selection of parameters, the receiver can detect a wide variety of signals. A headphone jack is provided on the front panel to monitor audio output. The DSP-derived analog audio and video signals for each channel are available through a connector located on the rear panel of the module.

Each receiver module has an embedded controller with three DSP processing functions: One digital signal processor function for each of the two channels, and one extra for customer use. The receiver module's embedded control software and DSP software are proven sets of instructions that have been in existence for several years.

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Business Category: Large Business

CDR

Hardware		
Frequency: 20 to 3000 MHz	Synthesizer Phase Noise: 100Hz offset: -65dBc/Hz 1kHz offset: -75dBc/Hz 10kHz offset: -95dBc/Hz 100kHz offset: -101dBc/Hz 1MHz offset: -120dBc/Hz 10MHz offset: -130dBc/Hz	Gain Control Modes: AGC & MGC
Frequency Resolution: 10 Hz		Detection Modes: AM, FM, PM, SSB, CW & FSK
Power: Universal AC or DC AC: 8-channel 450W 16-channel 700W DC: Optional 28VDC		Fast Ethernet Interface (I/Q or Digital Audio): One pair I/Q or one digital audio (not simultaneously) can be output through Ethernet Interface 100-base Tx connector
Weight: 8-channel 60lbs 16-channel 81.5 lbs Dimensions: 8.72"H x 19"W x 23.15"L	Synthesizer Tuning Speed: To within 1kHz of final frequency measured from last frequency command. ΔF<100kHz: 0.7msec max ΔF<1Mhz: 1.0msec max ΔF<50MHz: 1.2 msec max ΔF<500MHz: 2.0msec max	TDM Digital Audio Output (E1 Bus): Up to 16 channels. Digital audio time synchronized over backplane bus so that all 16 channels can be loaded onto an E1 line.
Noise Figure: 20<Fr<1200 MHz: 12.5 dB max 1200<Fr<3000 MHz: 13 dB max		Storage Temp.: -20°C to 70°C Operating Temp.: 0°C to 50°C Operating Altitude: Up to 15,000 ft

Performance	
23 synthesized digital IF filters	25 selectable IF bandwidths
10 Hz tuning resolution	BITE: Manual or software selectable
FDM demultiplexed audio from up to 24 channels on E1 interface	MTBF: 23,000 hrs dual-receiver mode; 2,500 hrs 16-channel system
No more than 5 spurious frequencies stronger than equivalent level at the antenna input of: 20<Fr<1200MHz, -110 dBm 122<Fr<3000 MHz, -105 dBm	Image Rejection: 1st mixer: >90 dB 2nd mixer: >80 dB for Fr<1800 MHz >70 db for Fr >1800 MHz
IF Rejection: = 85 dB (>75 dB for 5% of band 20-3000 MHz)	Forced air cooling
Squelch: Operates on selected carrier-to-noise ratios of 0 to 40 dB in 1 dB steps	A Digital Signal Processor has been added to support user-specific applications. Customer to install software to support own algorithms. Output data connector on back panel.
Scan and Sweep: Memory Channels: 250 programmable channels Scan: Up to 250 channels Sweep: f1 to f2 at selectable steps. Up to 125 sweep bands Sweep/Scan Rate: 1 to 100 Channels per second Adjustable Threshold: 1.0dB increments	Remote Control: One Ethernet 10/100 Base Tx line for control Software interface Cubic format Full API provided